

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2006-XXXX
FOR
ALPHA DYNO NOBEL dba ALPHA EXPLOSIVES
AND HERCULES INCORPORATED

INSITU GROUNDWATER TREATMENT SYSTEM
PLACER COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring the progress of the insitu groundwater treatment system. This MRP is issued pursuant to California Water Code Section 13267. Alpha Explosives and Hercules Incorporated (Discharger) is required to comply with this MRP. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. In addition to this MRP, groundwater sampling and reporting outlined in MRP No. R5-2005-0838 is still required.

All samples shall be representative of the volume and the nature of the discharge and matrix of the sampled medium. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

PHASE I INSITU TREATMENT MONITORING

As shown on Figure 1, there are eight monitoring wells, six test wells, and one proposed monitoring well in proximity to the Phase I remediation area, and one downgradient monitoring well. Of these, eleven wells (TW-0, TW-1, TW-2, TW-3, TW-5, MW-2, MW-3, MW-6, MW-9, MW-17, and MW-18) are associated with remediation performance monitoring. The groundwater monitoring program for these eleven wells and any remediation performance monitoring wells installed subsequent to the issuance of this MRP for the purpose of Phase I monitoring shall follow the schedule below. These analyses shall be completed by a State certified laboratory and shall follow standard EPA protocol. The first sampling event shall occur prior to Phase I acetate injection. Groundwater samples from remediation performance monitoring wells shall be analyzed for the following constituents according to the schedule below:

A. LABORATORY MEASURED PARAMETERS

Constituents	Analytical Method	Practical Quantitation Limit ¹
Alkalinity	SM 2320B	10 mg/L
Ammonia/Ammonium	EPA 350.1	0.5 mg/L
Methane (dissolved)	RSK-175M	0.001 mg/L
Nitrate/Nitrite (as nitrogen)	EPA 353.2	0.1 mg/L
Perchlorate	EPA 300.0	4.0 ug/L
Total Organic Carbon	EPA 415.1	1 mg/L

¹ For non-detectable results

B. MONITORING FREQUENCY

All constituents listed in Section A shall be monitored in the following wells, except as noted below.

	Mix Building				Former Evaporation Pond						
	MW-2	MW-3	MW-17	MW-18	TW-0	TW-1	TW-2	TW-3	TW-5	MW-6	MW-9
Pre-Injection	X	X	X	X	X	X	X		X	X	X ¹
Two Weeks after Initial Injection					X		X		X	X	
Quarterly	X	X	X	X	X		X		X	X	
Annually, 1st quarter (Jan-March)						X		X ²			

¹ Total organic carbon is the only constituent required to be analyzed in this well.

² Methane is the only constituent required to be analyzed in this well.

C. FIELD MEASURED PARAMETERS

Monitoring of the enhanced bioremediation project shall include field measured parameters to be performed at each monitored well at each monitoring event. The field measured parameters to be recorded are listed in the following table.

<u>Constituents</u>	<u>Units</u>
Depth to Groundwater	0.01 ft
Electrical conductivity	µmhos/cm
pH	pH units
Oxidation-reduction potential	millivolts
Temperature	°F/°C
Groundwater elevation	Feet and hundredths, mean sea level

Field testing instruments (such as those used to test oxidation-reduction potential and pH) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments.
2. The instruments are field calibrated prior to each monitoring event.
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.
4. Field calibration reports are provided with the appropriate monitoring report.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type, and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall also be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

A. Initial Monitoring Reports

Pre-injection baseline sampling data shall be submitted in an Implementation Report due within **60 days** after initial injections. Groundwater data obtained two weeks following the initial injections and pre-injection sample data shall be transmitted to Regional Water Board staff electronically within **four weeks** of obtaining the samples.

B. Quarterly Data Submittals

Quarterly data tables shall be submitted to the Board by the **1st day of the second month following the end of each quarter (i.e., the October-December transmittal is due by 1 February)**. The data tables may be transmitted electronically, and should include cumulative data.

C. Semi-Annual Report

Semi-annual reports shall be submitted to the Board by **1 June** and **1 December** of each year, commencing with **1 June 2007**. These reports shall contain an evaluation of the effectiveness and progress of the remediation, and may be submitted in lieu of the corresponding quarterly remediation data submittal. The content of the semi-annual report may be combined with the semi-annual report required by Monitoring and Reporting Program No. R5-2005-0838. Each semi-annual report shall contain the following minimum information:

1. Tabular summaries of all bioremediation data collected.
2. Graphical summaries of remedial progress, including nitrate, perchlorate, and total organic carbon concentration changes with time.
3. An evaluation of the performance of the enhanced bioremediation project and an analysis of the effectiveness in destroying the pollutants.

4. A discussion of compliance and the corrective action taken, if any, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of the Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

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